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SOME OBSERVATIONS CONCERNING THE PUBLIC SERVICE COMMISSION¹

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The institution of the public service principle and law was brought about with the object of securing a more equitable relation between the public and utility corporations. Probably those matters appertaining to this subject which would most interest this Association may be embodied in a few of those popular missives which we all love to receive called "Interrogatories," and which the Water Works Association usually called "A Question Box."

1. What is the present attitude of the Public Service Commissions toward utilities, particularly water-works?
2. Are they inclined to look upon water-works corporations as many so-called agitators look upon Big Business and as most of us look upon profiteers?
3. Have their past decisions added to the confidence with which financial underwriters and business men view this class of investment?
4. Are their recent decisions more, or are they less, favorable to water companies?
5. How do they now view the estimated Cost of Reproduction, Historical Cost, Depreciation, Going Value, Cost of Development, Obsolescence, Property no longer used and useful, Over-Development, the Service Charge, and the Inch, Foot or Mile Basis of Public Fire Service Charge?
6. In rate cases how do they determine the Rate Base?
7. What rate percentage do they allow as a fair return?
8. Do they include in the business any allowance or cost of putting the works in condition to give first-class service?

Any one who can answer all these questions reliably must certainly be gifted with super-intelligence, if not omniscience.

¹Read before the 4-States Section, April 16, 1920. Discussions of this paper are requested and should be sent to the Editor.

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When the Commission was first formed the apparent underlying idea was to protect the public from exorbitant and discriminatory rates and unreasonable rules promulgated by the water companies; at least, that is the attitude that appeared to dominate the Commission in its early history. Some of the more prominent of the members of the Commission were apparently men who had not obtained their experience by intimate and financial interest in the operation of utilities. It had long been realized by those familiar with their inside history, that water-works properties did not constitute gilt-edge investments, as was popularly believed by outsiders and the patrons of these water companies; and at first the managements of these water companies thought that the public service commission would stand between them and impending failure which menaced more than half the water-works in the state.

Some of the early decisions were very disappointing. The Public Service Commission's accountants were inclined to criticize the past financial history of the water company on all its items of cost that were not directly chargeable to labor and material. Past losses were looked upon as faults of the utility for having made an unfortunate investment, and failure to raise the rates to a point where these water companies were self-sustaining, which failure could not be subsequently made good. They had no sympathy with the idea that the early stages of a water company necessarily involve expenditures for extensions and developments that directly benefit the community without constantly paying adequate returns for which they had a right to expect compensation in the future growth and prosperity of the community.

Before the advent of regulation of rates by utilities by the Public Service Commission, the value of these utilities was dependent more upon the net revenue and the future prospects than on any other element. Hence it can be seen how serious was the blow to the owners of these utilities to find that their expectations could not now be realized. A larger number of items theretofore considered as legitimate elements of value were at once put in the class of "intangibles" and discredited in a wholesale manner. The effect was not only to greatly jeopardize the holdings of innocent investors but it became impossible to finance future improvements except by the greatest sacrifice on the part of the actual owners of the water companies to get what little they could out of a very much discredited investment. Necessary improvements were curtailed, and as a

consequence the normal and healthy development of the community in which these utilities were located. Many members of the Commission began to realize this condition, so that at the present time it appears that they are wise to the situation and are doing all they reasonably can to restore confidence. Their attitude is modified also by the fact that they had a number of years of very valuable experience in studying the fundamental history and principles of this subject and are profiting thereby.

It may be stated that the recent hearings reflect the broadening attitude of the Commission and the desire to do justice regardless of popular clamor.

When this subject of rate regulation began to receive wide-spread attention, and this was some time before the war, the basis of valuation most popularly accepted was that of the estimated cost of reproduction. Prices had not commenced to rise abnormally, and the public was fortified by the Knoxville decision of the United States Supreme Court wherein the Present Fair Value was to be the criterion as a Rate Base. Every one knows that Present Fair Value could not be measured by Historical Cost; neither could it be measured by the market value, because the market value was not only indeterminate but was now to be radically changed by the decision of the Commission as to what were to be the rates, so therefore the only recourse was to obtain an estimated cost of reproduction, which would generally be considerably below the historical cost. As the estimated cost of reproduction was necessarily based on a new plant, in order to find the estimated cost of a plant like the one in existence a material deduction had to be made for depreciation.

This idea seemed to meet the approval of all those who were interested in preventing unduly high valuations. However, the Supreme Court had stated that in arriving at the Fair Value the elements of Cost of Reproduction, Historical Cost and Market Value of Stocks and Bonds were all to be considered; but the earlier decisions indicated that the cost of reproduction less depreciation was really the criterion. Many students of this subject saw the fallacy of that view, and the author presented a paper before the Pennsylvania Water Works Association in October, 1914, advocating the adoption of the actual investment as the only fair basis of valuation for the rate regulation case. While this view was generally unacceptable at the time, it would have been received with much more favor if it were not for the ramifications of past organizations and reorganiza-

tions, mergers, stocks and bonds issued in some cases for physical property, in other cases for good will or influence, and in still other cases for caprice, and occasionally for no assignable reason whatsoever, so that from the minutes or books of the company it sometimes became a hopeless task to get within gunshot of what the actual investment really was. In all such cases, it was necessary to resort to estimated Cost of Reproduction, which, although arduous, entailing vast labor and expense, only limited by the will of the appraiser and the consent of the company, produced definite results. Then it was seen that the cost of reproduction could be vastly different depending upon what period of time was taken for the construction.

Prior to 1916, cast iron pipe, which constitutes such a material element in water-works building, varied from \$15 to \$40 per ton and other items also were subject to material fluctuation.

Present fair values. The Supreme Court decision made Present Fair Value the criterion and if the Cost of Reproduction were to be used as a measure of Present Fair Value, it must necessarily be based on present cost; therefore the valuation of a water-works was dependent upon the prices existing at the time the appraisal was made. It was then realized that for a Rate Base the Historical Cost or Investment represented a fixed unalterable amount while the Cost of Reproduction fluctuated from month to month. Then came the world war, which provided a real object lesson on the possibilities of fluctuation. Money, the standard of value as measured by property, dropped to a half or a third, and the principle of the Present Fair Value received a severe jolt as a measure of valuation for the Rate Base.

At the present time there seems to be a strong tendency to give more and more weight to Investment and less to Estimated Cost of Reproduction, which is looked upon more as a check on the actual Historical Cost.

When Historical Cost is considered, no deduction is made for accrued depreciation but the item of Development Cost, or Loss of Interest during Operation, as determined by the books, receives full consideration. The items designated under "No Longer Used and Useful" appear to be given undue consideration, especially when the company is unable to realize on the sale of its properties, under which circumstances no deduction fairly should be made, and if the properties are sold only the net amount realized from the sale should be deducted.

In regard to Over-Development, the Commission is generally fair and does not penalize the water company unless it is a clear case of gross carelessness or error, so such deduction is rarely if ever applied.

Cost of reproduction. In the Estimated Cost of Reproduction the recent practice has been to determine the cost new at prices prevailing prior to the war, or at the period between 1912 and 1916 inclusive. After obtaining these figures, a certain percentage is added for Overhead, amounting to somewhere around 20 per cent, to cover such items as Promotion, Organization, Administration, Legal Expense, Engineering, Contingencies and Interest during Construction, and the Depreciation applied to these items. To the final figures so obtained a sum is added for Going Value based upon estimates submitted by expert witnesses. The final result is usually designated as "Reproduction Cost less Accrued Depreciation plus Going Value," and constitutes one element of the Rate Base.

Historical cost. The Historical Cost as determined by an examination of the books and records of the Company by the Bureau of Accounts and statistics of the Public Service Commission, including the item for Deficiency below a Fair Return, constitutes the second element of valuation for the Rate Base. This is the item known as Loss of Interest during Operation. There are two methods of calculating this item; one is to tabulate all the expenses for plant for each year; then take the interest on these amounts, say at 6 percent, add the operating expenses and from these sums deduct the gross revenue. The net difference is the Cost of Development to the end of that year, and this sum is added to the plant cost for the total investment. This development usually covers a period from 10 to 20 years depending upon the circumstances of the Company's organization.

The second method of obtaining Development Cost or Loss of Interest during Operation is to consider the stocks, bonds and notes payable as a measure of the cost.

The Development Cost as figured by these two methods should give results not very far apart, depending on whether the Company's stock, bond and note issues are truly representative of the cost.

According to this method, if the Company has been earning from the beginning of the period adopted more than the Fair Return assumed, say 6 per cent, the Development Cost would reduce to a negative quantity, but these cases are rare.

Rate base. The Commission then has two main elements of valuation for consideration, from which it arrives at the Rate Base by a process that no one outside of the Commission has been able to formulate. It is suspected that it sub-divides these two main elements as follows:

- Reproduction Cost less Depreciation.
- Reproduction Cost less Depreciation plus Going Value.
- Historical Cost of Physical Plant.
- Historical Cost plus Development Cost.
- Historical Cost based on Securities Issued.
- Historical Cost + Development Cost based on Securities.

Discount on bonds, or cost of financing. It would seem that the Commission looks with favor on making a sufficient allowance to cover the actual amount shown on the books for the item to be amortized during the remaining life of the outstanding bonds. The equivalent Present Worth is then added to the Rate Base.

Future improvements. In regard to the expenditures required to put the works in condition to produce good service, the Commission has permitted a reasonable sum to be added to the Rate Base to cover a construction period several years ahead.

Rate of return. The companies have usually asked for a rate of return from 7 to 10 per cent, but the tendency of the Commission seems to be to lean toward 7 per cent and in some cases 8 per cent has been allowed. Even these allowances have been too meager to enable the water company to market its securities through banks and trust companies, the principal reason being that the Rate Base determined by the Commission has been insufficient.

Engineering conference. In many important cases the Commission has advised the contending parties to appoint engineers to determine and agree upon all the engineering elements of these cases possible, for it is now realized that engineering questions constitute nearly if not all of the matter appertaining to these rate cases. One engineer is usually selected by each party, and the Commission assigns one of its own engineers to act and preside over the conference.

Rate determination. In determining the rates the Commission leans strongly to an adequate proportion to be charged the municipalities for fire service. It considers that the practice of water companies heretofore has been insufficient in this respect, and it is not much in favor of the "Price per Hydrant" method but generally prefers a price per mile of main supplying fire service and then

a nominal price per hydrant, or sufficient to cover only the cost and maintenance, from \$7 to \$10 per year per each hydrant. The gross annual cost for fire service usually ranges from 10 to 25 per cent of the gross revenue, and generally is determined by what is known as the "Excess Method;" that is, the additional cost for property and operating expenses due to furnishing fire service more than would be necessary to provide only domestic service.

In some cases instead of charging per mile of main for all mains from 4 inches in diameter up, a price per foot or per mile per inch in diameter has been proposed.

For domestic and manufacturing service the Commission leans strongly to meter rates and seems to be in favor of the principle recommended by the New England Water-Works Association, which provided for a service charge based on the size of the meter, for which the consumer obtains no water; then the price for water is in addition and is usually based on a block schedule: For the first quantity of water, which usually covers the maximum that any single domestic consumer would likely use, the highest price is charged; for the next amount of water, an intermediate price per unit, and all over that quantity, the lowest price per unit.

The consumers who have been accustomed to the old form of Flat Rates and Minimum Meter Rates have usually objected to the service charge on the ground that they have paid for something which they did not get, and this phase of the matter has given the Commission a great deal of concern, and in some cases water companies have adopted a modification by permitting the consumer to obtain a certain quantity of water for the service charge for the smallest meter in general use.

Conclusion. In conclusion it would seem to the author that while the Public Service Commission at the present time desires to be fair to water companies, the practice in past years has been to scale down the Rate Base to an unreasonably low figure, and while the allowance in percentage of return, from 7 to 8 per cent, cannot be considered as unreasonably low when viewed from the standpoint of prevailing returns on capital, the general effect has nevertheless been confiscatory, which is proved by the disrepute into which water works credits have fallen among those bankers and trust companies who have in years gone by looked upon them as sound and safe.

Water-works stocks or bonds should be at least as desirable as those of a manufacturing plant, but their discredit among those financial underwriters who establish the market is notorious, and when questioned the answer is invariably to the effect that no sane investor will go into a water-works deal unless the returns are unduly high and give assurance of permanence, which, under the drastic regulation by Public Service Commissions to which they are subject, is obviously out of the question.

It therefore becomes impossible to raise capital to put in the necessary improvements to maintain satisfactory service unless the owners of the utility are liberal and fortunate enough to invest their own savings in the enterprise, which does not often happen, and hence the public suffers really more than the utility, and the healthy growth of the community is discouraged.

When the average man on the street hears that the Public Service Commission allows a particular utility 7 or 8 per cent return, he jumps to the conclusion that the allowance is unduly liberal, remembering that first-class investments pay only 5 or 6 per cent, and there is some ground for his conclusion. But if the Commission could be always counted on to base its valuation on the legitimate investment without deduction for Depreciation, for Property Obsolete, or Not Used and Useful and with a fair allowance for Development Cost, then a return of 6 per cent, or even less, for utilities would be eventually as attractive to investors as it is now in office buildings, ground rents and municipal securities.

The logical and practical remedy for all these difficulties is Municipal Ownership. The properties can be taken over by agreement or eminent domain. Securities can be underwritten at the same rates as municipal bonds, and the improvements can be installed whenever desirable. Municipalities can then adopt such rates, rules, standards of service, water quality and policies regarding extensions as they deem expedient.

In municipal ownership, it is obvious that the rates must be sufficient to pay for all plant account, depreciation, operating expenses, past losses, whether due to property no longer used and useful, loss of interest during operation, obsolescence or other costs due to errors of design or construction and even gross carelessness. The public must make good. Then why should the Commission not take about the same view of it when the works are operated by a water company?